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| 0                 |          | AA1           |      | 4,992                                     | 05/24/1994                          | Guyre et al.  | 02.00                     | 000 02 100                               | 11/25/1991              |
|                   | 1        | AB1           | 5,44 | 0,021                                     | 08/08/1995                          | Chunatharapai et al.  |                           |  | 02/25/1994              |
|                   | T        | AC1           | 5,65 | 2,133                                     | 07/29/1997                          | Murphy  | -                         |  | 01/28/1993              |
|                   | 1        | AD1           | 5,70 | 7,815                                     | 01/13/1998                          | Charo et al.  |                           |  | 5/25/1995               |
|                   |          | AE1           | 5,77 | 6,729                                     | 07/07/1998                          | Soppet et al.   |                           |  | 06/05/1995              |
|                   |          | AF1           |      | 8,206                                     | 08/25/1998                          | Neurath et al.  |                           |  | 01/10/1997              |
|                   |          | AG1           | ┸.   | 7,310                                     | 10/06/1998                          | Ramakrishnan et al.   |                           |  | 06/10/1994              |
|                   |          | AH1           | 5,91 | 2,176                                     | 06/15/1999                          | Wang  |                           |  | 06/02/1997              |
|                   |          | Alt           | 5,91 | 9,776                                     | 07/06/1999                          | Hagmann et al.  |                           |  | 12/18/1997              |
|                   |          | AJ1           | 5,92 | 8,881                                     | 07/27/1999                          | Barnette et al.   |                           |  | 07/11/1997              |
|                   | $\angle$ | AK1           | 5,93 | 9,320                                     | 08/17/1999                          | Littman et al.  |                           |  | 06/19/1996              |
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| V                 | 1        | AL1           | wo   | 92/01810                                  | 02/06/1992                          | WIPO  |                           |  | Yes<br>No               |
| <del></del>       | <b> </b> | AM1           | ex:  | 2,146,328                                 | 05/26/1994                          | Canada  | _                         |  | Yes<br>No               |
| /                 |          | AN1           | CA   | 2,128,208                                 | 06/09/1994                          | Canada  |                           |  | Yes<br>No               |
| /-                | /        | AO1           | wo   | 94/11504                                  | 5/26/1994                           | WIPO  |                           |  | Yes<br>No               |
| //                |          | AP1           | wo   | 95/19436                                  | 07/20/1995                          | WIPO  |                           |  | Yes<br>No               |
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| 9                 |          | AR            | 1    | Alkhatib, G.<br>Macrophage<br>Science (Ju | : -Tropic HIV-1,"                   | 5: A RANTES, MIP-1α, MIP-1 <i>j</i><br>Science 272:1955-1958, Ame | 8 Receptor<br>erican Asso | as a Fusion Cofac<br>ciation for the Adv | ctor for<br>ancement of |
|                   |          | AS            | 1    | Balter, M., "I                            | Elusive HIV-Sup<br>ment of Science  | pressor Factors Found," <i>Scien</i> (December 1995)              | псө 270:156               | 60-1561, Americai                        | n Association for       |
|                   |          | AT            | 1    | Balter, M., "/<br>Association             | A Second Corect<br>for the Advancer | eptor for HIV In Early Stages of ment of Science (June 1996)      | of Infection,             | * Science 272:174                        | IO, American            |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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|                     | AA2           | 5,939,538                  | 08/17/1999                                       | Leavitt et al.  | CLASS_                          | 30B-CEA33                         | 12/19/1996               |
|                     | AB2           | 5,961,976                  | 10/05/1999                                       | Wang  |                                 | 1                                 | 02/28/1997               |
|                     | AC2           | 5,962,462                  | 10/05/1999                                       | Mills et al.  |                                 |                                   | 12/12/1997               |
|                     | AD2           | 5,994,515                  | 11/30/1999                                       | Hoxie   |                                 |                                   | 06/25/1997               |
| <del> -</del>       | AE2           | 6,013,644                  | 01/11/2000                                       | Mills et al.  |                                 | <u> </u>                          | 12/12/1997               |
|                     | AF2           | 6,025,154                  | 02/15/2000                                       | Li et al.   |                                 | <u> </u>                          | 06/06/1995               |
|                     | AG2           | 6,057,102                  | 05/02/2000                                       | Landau et al.   |                                 |                                   | 08/08/1997               |
|                     | AH2           | 6,132,987                  | 10/17/2000                                       | Charo et al.  |                                 |                                   | 05/25/1995               |
|                     | A12           | 6,153,431                  | 11/28/2000                                       | Beretta et al.  |                                 |                                   | 05/28/1998               |
| 1/                  | AJ2           | 6,258,527                  | 07/10/2001                                       | Littman et al.  |                                 |                                   | 05/21/1997               |
|                     | AK2           | 6,265,184 B1               | 07/24/2001                                       | Gray et al.   |                                 |                                   | 12/20/1995               |
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|                     | AL2           | EP 0 671 391               | 09/13/1995                                       | Europe  |                                 |                                   | Yes<br>X No              |
|                     | AM2           | WO 96/22371                | 07/25/1996                                       | WIPO  |                                 |                                   | Yes<br>No                |
|                     | AN2           | WO 96/23068                | 08/01/1996                                       | WIPO  |                                 |                                   | Yes<br>No                |
|                     | A02           | WO 96/38559                | 12/05/1996                                       | WIPO  |                                 |                                   | Yes<br>No                |
| _/_                 | AP2           | WO 96/39437                | 12/12/1996                                       | WIPO  |                                 |                                   | Yes<br>No                |
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|                     | AR            | Bendig, M. Academic        | M., "Humanizatio<br>Press, Inc. (Octob           | n of Rodent Monoclonal Ant<br>per 1995)                   | tibodies by CDF                 | R Grafting," <i>Met</i> i         | hods 8:83-93,            |
|                     | AS            | Bowie, J.U<br>Substitution | ., et al. "Decipher<br>is," <i>Science 247</i> : | ing the Message in Protein 3<br>1306-1310, American Assoc | Sequences: To ciation for the A | lerance to Amin<br>advancement of | o Acid<br>Science (1990) |
|                     | AT            | Burbach, J<br>18, Elsevie  | P.H., and Meijer, r Science Publish              | O.C., "The structure of neu<br>ners B.V. (1992)           | ropeptide rece                  | ptors," Eur. J. Pi                | harmacol. 227:1-         |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
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|   | ABS  |                             | 6,287,805          |                                    | 09/11/2001                                  | Graham et al.   |                 |  | 03/20/1998                        |
|   | +  | AC3                         | 2002/              | 0048786 A1                         | 04/25/2002                                  | Rosen et al.  |                 |  | 02/09/2001                        |
|   |  | AD3                         | 2002/              | 0076745 A1                         | 06/20/2002                                  | Li et al.   |                 |  | 11/18/1998                        |
|   |  | AE3                         | 2002/              | 0061834 A1                         | 05/23/2002                                  | Rosen et al.  |                 |  | 02/09/2001                        |
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|   |  | AG3                         | 6,511              | ,826                               | 01/28/2003                                  | Li et al.   |                 |  | 02/11/2000                        |
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|   |  | AI3                         | 2003/              | 0100058 A1                         | 03/29/2003                                  | Roschke et al.  |                 |  | 02/08/2002                        |
|   |  | A/J3                        | 2003/              | 0166024 A1                         | 09/04/2003                                  | Rosen et al.  |                 |  | 05/01/2002                        |
| ·   |  | AK3                         | 6,743              | ,594 B1                            | 06/01/2004                                  | Li et al.   |                 |  | 02/11/2000                        |
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| <u> </u>  | _  | AL3                         | wo                 | 97/00960                           | 01/09/1997                                  | WIPO  |                 |  | Yes<br>No                         |
|   | 1  | AM3                         | wo                 | 97/19696                           | 06/05/1997                                  | WIPO  |                 |  | Yes<br>No                         |
| /   |  | AN3                         | wo                 | 97/21812                           | 06/19/1997                                  | WIPO  |                 |  | Yes<br>No                         |
|   | _/   | A03                         | wo                 | 97/22698                           | 06/26/1997                                  | WIPO  |                 |  | Yes<br>No                         |
| L   |  | AP3                         | wo                 | 97/25340                           | 07/17/1997                                  | WIPO  |                 |  | Yes<br>No                         |
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|   | V  | AR                          | <u>3</u>           | A New Strat                        | tegy in the Treatr                          | CCR5-Expressing Cells with<br>ment of Chronic Inflammatory<br>ation of Immunologists (Febru | Diseases and    | tibodies and Ch<br>d HIV," <i>J. Immul</i> | emokine Toxins:<br>nol. 166:2420- |
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| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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|                                 | AB4                        | 6,800              | ,729 B2                              | 10/05/2004  | Li et al.  |   |                                   | 11/18/1998                       |
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| 2                               | AL4                        | wo                 | 97/28258                             | 08/07/1997  | WIPO   |   |                                   | Yes<br>No                        |
| 1                               | AM4                        | EP (               | 612 723                              | 08/27/1997  | Europe   |   |                                   | Yes<br>X No                      |
|                                 | AN4                        | wo                 | 97/32019                             | 09/04/1997  | WIPO   |   |                                   | Yes<br>No                        |
| 1/                              | A04                        | wo                 | 97/35881                             | 10/02/1997  | WIPO   |   |                                   | Yes<br>No                        |
|                                 | AP4                        | wo                 | 97/37005                             | 10/09/1997  | WIPO   |   |                                   | Yes<br>No                        |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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|                     | AL5  | wo          | 97/41230                              | 11/06/1997   | WIPO  |                                    |                                     | Yes<br>X No                       |
| )                   | AM5  | wo          | .97/41225                             | 11/06/1997   | WIPO  |                                    |                                     | Yes<br>No                         |
|                     | AN5  | wo          | 97/44055                              | 11/27/1997   | WIPO  |                                    |                                     | Yes<br>No                         |
|                     | A05  | wo          | 97/45543                              | 12/04/1997   | WIPO  |                                    |                                     | Yes<br>No                         |
|                     | AP5  | wo          | 97/46697                              | 12/11/1997   | WIPO  |                                    |                                     | Yes<br>No                         |
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| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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| (1)                                  | AL6   | wo       | 97/47318      | 12/18/1997  | WIPO  |                                  |                     | Yes<br>No                     |
|                                      | AM6   | wo       | 97/47319      | 12/18/1997  | WIPO  |                                  |                     | Yes<br>No                     |
|                                      | AN6   | wo       | 97/49424      | 12/31/1997  | WIPO  |                                  |                     | Yes<br>No                     |
|                                      | A06   | wo       | 98/00535      | 01/08/1998  | WIPO  |                                  |                     | Yes<br>No                     |
|                                      | AP6   | wo       | 98/05798      | 02/12/1998  | WIPO  |                                  |                     | Yes<br>No                     |
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|                                      | AR  | <u>6</u> | M Protein, E  | m, M.W., <i>et al.</i> , "(<br>Enteroviruses, ar<br>ademy of Scienc | Cytotoxic and Viral Neutralizir<br>nd Human Cardiac Myosin," F<br>es (1992) | ng Antibodies<br>Proc. Natl. Aca | Crossreact With     | n Streptococcal<br>1320-1324, |
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|                                      | AT  | <u>6</u> |               | S., "Fusin - a pla<br>Group (June 199                               | ice for HIV-1 and T4 cells to r<br>6)                                       | neet," <i>Natur</i> e            | Med. 2:640-641      | , Nature                      |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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|  | AL7  | <u>  wo</u>   | 98/14480                             | 04/09/1998   | WIPO  |                           |  | No Yes                 |  |
|  | AM7  | wo            | 98/15569                             | 04/16/1998   | WIPO  |                           |  | No                     |  |
|  | AN7  | 140           | 98/17308                             | 04/30/1998   | WIPO  |                           |  | Yes                    |  |
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|  | A07  | wo            | 98/18826                             | 05/07/1998   | WIPO  | _                         |  | No                     |  |
|  | AP7  | <sub>EP</sub> | 0 834 564                            | 05/13/1998   | Europe  | ļ                         |  | Yes<br>No              |  |
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| V  | AR   | 7             | Doranz, B.J.<br>Receptors 0<br>1996) | ., <i>et al.</i> , "A Dual-1<br>KR-5, CKR-3, ar  | Fropic Primary HIV-1 Isolate T<br>nd CKR-2b as Fusion Cofacto | hat Uses Furs," Cell 85:1 | sin and the <i>β</i> -Cl<br>149-1158, Cell | hemkine<br>Press (June |  |
|  | AS   | <u>7</u>      | Dragic, T., e<br>Nature 381:         | Dragic, T., et al., "HIV-1 entry into CD4+ cells is mediated by the chemokine receptor CC-CKR-5," Nature 381:667-673, Macmillan Publishing Group (June 1996) |   |                           |  |                        |  |
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| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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|                  | AL8           | wo   | 98/20166   | 05/14/1998  | WIPO  |                                    |                                   | Yes<br>No               |  |
|                  | AM8           | wo   | 98/25604   | 06/18/1998  | WIPO  |                                    |                                   | Yes<br>No               |  |
|                  | BMA           | wo   | 98/25605   | 06/18/1998  | WIPO  |                                    |                                   | Yes<br>No               |  |
|                  | AO8           | wo   | 98/25617   | 06/18/1998  | WIPO  |                                    |                                   | Yes<br>No               |  |
|                  | AP8           | wo   | 98/27815   | 07/02/1998  | WIPO  |                                    |                                   | Yes<br>No               |  |
|                  |               | 1  | OTHER (  | ncluding Autl   | nor, Title, Date, Pertinent                               | Pages, etc.                        | )                                 |                         |  |
|                  | AR            | 8  | Feng, Y., et<br>Protein-Cou<br>Science (M  | pled Receptor,"   | y Cofactor: Functional cDNA<br>Science 272:872-877, Ameri | Cloning of a S<br>ican Association | even-Transmer<br>on for the Advar | nbrane, G<br>ncement of |  |
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| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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|                     | AL9   | 1               | 0-17 <u>918</u> 0  | 07/07/1998                                 | Japan   |                 |                                 | Yes<br>X No      |  |
|                     | АМ9   | wo              | 98/30218   | 07/16/1998                                 | WIPO  |                 |                                 | Yes<br>No        |  |
|                     | AN9   | wo              | 98/31364   | 07/23/1998                                 | WIPO  |                 |                                 | Yes<br>No        |  |
|                     | AO9   | wo              | 98/34945   | 08/13/1998                                 | WIPO  |                 |                                 | Yes<br>No        |  |
| 4/                  | AP9   | wo              | 98/38212   | 09/03/1998                                 | WIPO  |                 |                                 | Yes<br>No        |  |
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| 2                   | AR  | <u>9</u>        | Gomez-Rein<br>CCR5," <i>Arth</i>   | io, J.J., et al., "As<br>ritis Rheum. 42:9 | ssociation of Rheumatoid Arth<br>189-992, American College of | ritis with a Fo | unctional Chem<br>gy (May 1999) | okine Receptor,  |  |
|                     | AS  | <u>8</u>        | Greenwood, M.T., et al., "Ligand Binding Pocket of the Human Somatostatin Receptor 5: Mutational Analysis of the Extracellular Domains," Mol. Pharmacol. 52:807-814, The American Society for Pharmacology and Experimental Therapeutics (November 1997) |  |   |                 |                                 |                  |  |
|                     | AT g Gura, T., "Chemokines Take Center Stage in Inflammatory Ills," Science 272:954-956, American Association for the Advancement of Science (May 1996) |                 |  |  |   |                 |                                 |                  |  |
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| 4/                                 | AL10   |  | 98/42354      | 10/01/1998                                   | WIPO   |                  |                      | Yes               |
| 1                                  |  |  |               |  |  |                  |                      | No<br>Yes         |
|                                    | AM10   | wo   | 98/44158      | 10/08/1998                                   | WIPO   | -                |                      | No<br>Yes         |
|                                    | ANTO   | wo   | 98/51705      | 11/19/1998                                   | WIPO   |                  | ļ                    | No<br>Yes         |
|                                    | A010   | <u>wo</u>  | 98/54317      | 12/03/1998                                   | WIPO   |                  |                      | No                |
|                                    | AP10   | wo   | 98/55873      | 12/10/1998                                   | WIPO   |                  |                      | Yes<br>X No       |
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|                                    | AR   | <u>10</u>  | encodes a     | polypeptide with:                            | abundant transcript induced<br>structural similarities to G-pro<br>ociety for Biochemistry and I | otein-coupled    | receptors," J. Bi    | ol. Chem.         |
|                                    | AS   | AS 10 Horuk, R., "Molecular Properties of the Chemokine Receptor Family," <i>Trends in Pharmacol. Sci.</i> 15:159-165, Elsevier Science (May 1994) |               |  |  |                  |                      |                   |
|                                    | AT  Jobling, M.G. and Holmes, R.K., "Analysis of structure and function of the B subunit of cholera toxin by the use of site-directed mutagenesis," <i>Mol. Microbiol.</i> 5:1755-1767, Blackwell Science (1991) |  |               |  |  |                  |                      |                   |
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| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
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| (                   | AL11         | wo  | 98/56421               | 12/17/1998                               | WIPO  |  |                            | Yes<br>No       |
|                     | AM11         | wo  | 98/58536               | 12/30/1998                               | WIPO  |  |                            | Yes<br>No       |
|                     | AN11         |   | 98/58966               | 12/30/1998                               | WIPO  |  |                            | Yes<br>No       |
| 1/                  | AO11         | 1   | 99/01127               | 01/14/1999                               | WIPO  | 1                                      |                            | Yes<br>No       |
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| W                   | AR           | 11  | Larhamma<br>Design and | r, D., et al., "The<br>I Discovery 9:179 | Receptor Revolution - Mu<br>9-188, Harwood Academic | Itiplicity of G-Prot<br>Publishers Gmb | ein-Coupled Re<br>H (1993) | ceptors," Drug  |
|                     | AS           | Lee, B., et al., "Epitope Mapping of CCR5 Reveals Multiple Conformational States and Distinct but Overlapping Structures Involved in Chemokine and Coreceptor Function," J. Biol. Chem. 274:9617-9626, American Society for Biochemistry and Molecular Biology (April 1999) |                        |  |   |  |                            |                 |
|                     | АТ           | 11  |                        | and Kerlavage, A<br>Science (1993)       | R., "Molecular Biology of                           | G-Protein-Couple                       | ed Receptors," l           | ON & P 6:488-   |
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|                         | AL12   | wo        | 99/06561                    | 02/11/1999  | WIPO  | ļ              |                                       | No<br>Yes  |  |  |
|                         | AM12   | wo        | 99/08703                    | 02/25/1999  | WIPO  | <u> </u>       |                                       | No<br>Yes  |  |  |
|                         | AN12   | wo        | 99/09984                    | 03/04/1999  | WIPO  |                |                                       | No   |  |  |
|                         | AO12   | wo        | 99/12416                    | 03/18/1999  | WIPO  | ļ. <u> </u>    |                                       | Yes<br>No  |  |  |
|                         | AP12   | wo        | 99/13112                    | 03/18/1999  | WIPO  |                |                                       | Yes<br>No  |  |  |
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|                         | AR   | <u>12</u> | Receptor Ide                | entifies Charged  | e Mutagenesis of the Extracell<br>Residues Mediating IL-8 Bindi<br>Society for Biochemistry and I | ng and Signa   | al Transduction                       | " J. Biol. Chem.                                 |  |  |
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|                         | AT   | <u>12</u> | Libert, F., et receptor fam | bert, F., et al., "Selective amplification and cloning of four new members of the G protein-coupled ceptor family," <i>Science 244</i> :569-572, American Association for the Advancement of Science (1989) |   |                |                                       |  |  |  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
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|                     | AL13           | wo        | 99/14378                    | 03/25/1999  | WIPO   |  |                                   | Yes                              |
| 9                   | AM13           |           |                             |   |  |  |                                   | No<br>Yes                        |
|                     |                |           | 99/17773                    | 04/15/1999  | WIPO   |  |                                   | No<br>Yes                        |
| <del></del>         | AN13           | wo        | 99/23107                    | 05/14/1999  | WIPO   |  | 1                                 | No Yes                           |
|                     | AO13           | wo        | 99/23253                    | 05/14/1999  | WIPO   |  |                                   | No No                            |
|                     | AP13           | wo        | 99/24065                    | 05/20/1999  | WIPO   |  |                                   | Yes<br>No                        |
|                     |                |           | OTHER (                     | ncluding Autl   | nor, Title, Date, Per  | tinent Pages, etc.                                   | )                                 |                                  |
| n                   | AR             | <u>13</u> | Synovial Ef                 | t al., "Predomina<br>fusions of Patien<br>Rheumatology (N | ance of Mononuclear C<br>Its with Different Forms<br>May 1999) | Cells Expressing the (<br>s of Arthritis," Arthritis | Chemokine Rec<br>Rheum. 42:98     | eptor CCR5 in<br>I-988, American |
|                     | AS             | 13        | Marshall, E for the Adva    | ., "HIV Experts vancement of Scie                         | s. Sequencers in Pate<br>ence (February 1997)                  | nt Race," <i>Science</i> 27                          | '5:1263, America                  | an Association                   |
|                     | AT             | <u>13</u> | Meyerhof, V<br>during rat s | V., et al., "Molec<br>permiogenesis,"                     | ular cloning of a novel<br>FEBS Letters 284:155                | putative G-protein co<br>-160, Elsevier Scienc       | oupled receptor<br>ce B.V. (1991) | expressed                        |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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| 4/                  | AL14  |              | 99/24553  | 05/20/1999                              | WIPO  |  |   | Yes<br>No        |
| /                   | AM14  |              | 2 771 423   | 05/28/1999                              | France  |  |   | Yes<br>X No      |
|                     | ANI4  | 1            | 99/27122  | 06/03/1999                              | WIPO  |  |   | Yes<br>X No      |
|                     | A014  | wo           | 99/27939  | 06/10/1999                              | WIPO  |  |   | Yes<br>No        |
|                     | AP14  |              | 99/28474  | 06/10/1999                              | WIPO  |  |   | Yes<br>No        |
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| <b>/</b>            | AR  | 14           | Mummidi, S<br>30671, Ame  | ., et al., "The Hu<br>rican Society for | man CC Chemokine Receptor<br>Biochemistry and Molecular E | 5 (CCR5) G<br>Biology (Dece                        | ene," <i>J. Biol. Cl</i><br>ember 1997) | nem. 272:30662-  |
|                     | AS  | 14           | Murdoch, C. and Finn, A., "Chemokine receptors and their role in inflammation and infectious diseases," <i>Blood 95</i> :3032-3043, The American Society of Hematology (May 2000) |   |   |  |   |                  |
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| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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| 4                                  | AL15                        | wo  | 99/32100                          | 07/01/1999                                   | WIPO   |                                   |                      | Yes<br>No        |
|                                    | AM15                        | wo  | 99/32138                          | 07/01/1999                                   | WIPO   |                                   |                      | Yes<br>No        |
|                                    | AN15                        | wo  | 99/33989                          | 07/08/1999                                   | WIPO   |                                   |                      | Yes<br>No        |
|                                    | AO15                        | wo  | 99/36518                          | 07/22/1999                                   | WIPO   |                                   |                      | Yes<br>No        |
|                                    | AP15                        | wo  | 99/38514                          | 08/05/1999                                   | WIPO   |                                   |                      | Yes<br>No        |
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| 2/                                 | AR                          | <u>15</u>   | Neote, K., e<br>Chemokine         | et al., "Molecular<br>Receptor," <i>Cell</i> | Cloning, Functional Express<br>72:415-425, Cell Press (199 | ion, and Signa<br>3)              | ling Characteris     | tics of a C-C    |
|                                    | AS                          | Nomura, H., et al., "Molecular cloning of cDNAs encoding a LD78 receptor and putative leukocyte chemotactic peptide receptors," Int. Immunol. 5:1239-1249, Oxford University Press (1993) |                                   |  |  |                                   |                      |                  |
|                                    | AT                          | <u>15</u>   | Oliveira, L.,                     | et al., "A commo<br>ded Mol. Des. 7:         | on motif in G-protein-coupled<br>649-658, Escom Science Pu | l seven transm<br>blishers (1993) | embrane helix r<br>) | eceptors," J.    |
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| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               | • |
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| (                | AL16  |  | 99/43711   | 09/02/1999          | WIPO   |   |   | Yes<br>No               |
| )                | AM16  |  | 11-243960  | 09/14/1999          | Japan  |   |   | Yes<br>X No             |
| 7                | AN16  |  | 99/46372   | 09/16/1999          | WIPO   |   |   | Yes<br>No               |
|                  | AO16  |  | 99/51751   | 10/14/1999          | WIPO   |   |   | Yes<br>X No             |
|                  | AP16  |  | 99/53033   | 10/21/1999          | WIPO   |   |   | Yes<br>No               |
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| 1                | AR  | <u>16</u>  | Binding, and   | d CC-Chemokin       | al Inhibition of Human Imi<br>e Activity by Monoclonal A<br>biology (May 1999) | munodeficiency Via<br>Antibodies to CCR | rus Type 1 Fusi<br>5," <i>J. Virol.</i> 73: | on, gp120<br>4145-4155, |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
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|                  | AL17  | JP 1  | 1-292795      | 10/26/1999   | Japan                        |                                       |                     | Yes<br>X No      |
|                  | AM17  | wo  | 99/62535      | 12/09/1999   | WIPO                         |                                       |                     | Yes<br>No        |
|                  | AN17  | wo  | 99/67429      | 12/29/1999   | WIPO                         |                                       |                     | Yes<br>No        |
|                  | A017  | wo  | 99/66944      | 12/29/1999   | WIPO                         |                                       |                     | Yes<br>No        |
|                  | AP17  | wo  | 00/02045      | 01/13/2000   | WIPO                         |                                       |                     | Yes<br>No        |
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|                  | AR  | 17  | Promega, "    | 3. Nucleic Acids   | : Primers and Linkers," in 1 | 993/94 Catalog,                       | Promega Corpo       | oration (1993)   |
|                  | AS  | 17  | Chemokine     | aport, C.J., et al., "Molecular Cloning and Functional Characterization of a Novel Human CC<br>hemokine Receptor (CCR5) for RANTES, MIP-1β, and MIP-1α," <i>J. Biol. Chem. 271</i> :17161-17166,<br>merican Society for Biochemistry and Molecular Biology (July 1996) |                              |                                       |                     |                  |
|                  | AT  Ross, P.C., et al., "RTA, a candidate G protein-coupled receptor: cloning, sequencing, and tissue distribution," <i>Proc. Natl. Acad. Sci. USA</i> 87:3052-3056, National Academy of Science (1990) |   |               |  |                              |                                       |                     |                  |
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|                  | AG  |             |   | . <u></u>              |  |                                  |   |                              |
|                  | AH  | <u> </u>    |   |                        |  |                                  |   |                              |
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| N <sub>1</sub>   | AL18  |             | 00/05265  | 02/03/2000             | WIPO   |                                  |   | Yes<br>No                    |
| <u> </u>         | AM18  | wo          | 00/06085  | 02/10/2000             | WIPO   |                                  |   | Yes<br>No                    |
|                  | AN18  | wo          | 00/06146  | 02/10/2000             | WIPO   |                                  |   | Yes<br>No                    |
|                  | AO18  | wo          | 00/06153  | 02/10/2000             | WIPO   |                                  |   | Yes<br>No                    |
|                  | AP18  | EP (        | 979 655   | 02/16/2000             | Europe   |                                  |   | Yes<br>X No                  |
|                  |   | <i>о</i>    | OTHER (I  | ncluding Auth          | or, Title, Date, Pertinen                                | Pages, etc.                      | )                                       |                              |
| 2                | AR  | <u>18</u>   | Samson, M.<br>Receptor G<br>(May 1996)  | ene," <i>Chem. Abs</i> | ar Cloning and Functional Extracts 124:993, Abstract No. | xpression of a<br>. 258056e, The | New Human CO<br>American Che            | C-Chemokine<br>mical Society |
|                  | AS  | <u>18</u>   | Samson, M., et al., "Molecular Cloning and Functional Expression of a New Human CC-Chemokine Receptor Gene," <i>Biochemistry</i> 35:3362-3367, American Chemical Society (March 1996) |                        |  |                                  |   |                              |
|                  | AT Schall, T.J., "Biology of the RANTES/SIS Cytokine Family," Cytokine 3:165-183, Academic Press, Inc. (1991) |             |   |                        |  |                                  |   |                              |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
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|   | AL19          | _ wo      | 00/08043   | 02/17/2000  | WIPO                            |                  |                     | Yes<br>No        |  |
|   | AM19          | wó        | 00/09525   | 02/24/2000  | WIPO                            |                  |                     | Yes<br>No        |  |
|   | AN19          | wo        | 00/10965   | 03/02/2000  | WIPO                            |                  |                     | Yes<br>No        |  |
|   | AO19          | wo        | 00/14220   | 03/16/2000  | WIPO                            |                  |                     | Yes<br>X No      |  |
|   | AP19          |           | 00/15663   | 03/23/2000  | WIPO                            |                  |                     | Yes<br>No        |  |
|   |               |           |  |   | nor, Title, Date, Pertinent     | Pages, etc.      | )                   | 140              |  |
| 2                                       | AR            | <u>19</u> | Skolnick, J. and Fetrow, J.S., "From genes to protein structure and function: novel applications of    |   |                                 |                  |                     |                  |  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR Li et al.           |                               |
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| 1                                   | AL20        | RU 2      | 2126048   | 02/10/1999   | Russian                                |                |                      | Yes<br>X No           |  |
|                                     | AM20        | wo        | 00/15785  | 03/23/2000   | WIPO                                   | ·              |                      | Yes<br>X No           |  |
|                                     | AN20        | wo        | 01/58916  | 08/16/2001   | WIPO                                   |                |                      | Yes<br>No             |  |
|                                     | AO20        | wo        | 02/064612   | 8/22/2002  | WIPO                                   |                |                      | Yes<br>No             |  |
| V                                   | AP20        | wo        | 03/075944   | 09/18/2003   | WIPO                                   |                |                      | Yes<br>No             |  |
|                                     | <del></del> |           | OTHER (Ir   | ncluding Author  | or, Title, Date, Pertinent P           | ages, etc.)    |                      |                       |  |
|                                     | AR          | <u>20</u> | Weiss, R.A.<br>(June 1996)  | and P.R. Clapha  | m, "Hot fusion of HIV," <i>Natur</i> e | 381:647-64I    | 3, Macmillan Pu      | blishing Group        |  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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| 8                                  | AL21         |  | 2004/020468  | 03/11/2004                               | WIPO  |                     | 1                                      | Yes<br>No                     |
|                                    | AM           |  |  |  |   |                     |  | Yes<br>No                     |
|                                    | AN           |  |  |  |   |                     |  | Yes<br>No                     |
|                                    | AO           |  |  |  |   |                     |  | Yes<br>No                     |
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|                                    |              |  | OTHER (In  | ncluding Auth                            | or, Title, Date, Pertine                          | ent Pages, etc.)    |  |                               |
| 9                                  | AR           | <u>21</u>  | Zang, Y.C.Q  | ., et al., "Aberra<br>rerexpression of   | nt T cell migration toward chemokine receptor CCF | RANTES and Mil      | P-1  or in patients  or 4-1882, Oxford | with multiple<br>I University |
|                                    | AS           | <u>21</u>  | "CCR-5 Antibodies-Human Chemokine Receptor Antibodies," Aves Labs, Inc., <a href="http://www.aveslab.com/ccr5.html">http://www.aveslab.com/ccr5.html</a> , (visited August 2001) |  |   |                     |  |                               |
|                                    | AT           | "CCR-5 (CCR5) Chemokine Receptor antibodies available through Research Diagnostics Inc.," Research Diagnostics Inc., <a href="http://www.researchd.com/cytokines/ccr5ab.htm">http://www.researchd.com/cytokines/ccr5ab.htm</a> , (visited August 2001) |  |  |   |                     |  |                               |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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| 1                   | AR           | 22            | "Euroscree<br><http: td="" www<=""><td>n Available P<br/>v.euroscreen.</td><td>roducts: Mammalian recorbe/products/cell_lines.htm</td><td>mbinant cell lines," E<br/>nl&gt;, (visited August 2</td><td>iuroscreen s.a. (<br/>001)</td><td>1999),</td></http:> | n Available P<br>v.euroscreen.  | roducts: Mammalian recorbe/products/cell_lines.htm | mbinant cell lines," E<br>nl>, (visited August 2 | iuroscreen s.a. (<br>001)                        | 1999),           |  |
|                     | AS           | <u>22</u>     | Centennial  | "Myocardial Infarction," in The Merck Manual of Diagnosis and Therapy, Seventeenth Edition, Centennial Edition, Section 16, Chapter 202, Beers, M.H. and Berkow, R., eds., Merck & Co., Inc. (1999) <a href="http://www.merck.com/pubs/Manual/section16/chapter202/202d.htm">http://www.merck.com/pubs/Manual/section16/chapter202/202d.htm</a> (visited August 2001) |  |  |  |                  |  |
|                     | АТ           | 22            | "Specificati<br>August 200  | Specification Sheet H-1001," Aves Labs, Inc., <a href="http://www.aveslab.com/specs/h1001.html">http://www.aveslab.com/specs/h1001.html</a> , (visited August 2001)   |  |  |  |                  |  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |  |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |  |
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|                     | AR           | 23   | Database El<br>1998)  | Database EMBL Online, Accession No. AF031237, from Mummidi, S., et al. (first available January                         |   |                 |                      |                  |  |
|                     | AS           | <u>23</u>  |   | Dialog File 351, Accession No. 1995-312725/199541, Derwent WPI English language abstract of EP 0 671 391 (Document AL2) |   |                 |                      |                  |  |
|                     | AT           | <u>23</u>  | Dialog File 351, Accession No. 1994-265874/199433, Derwent WPI English language abstract of EP 0 612 723 (Document AM4) |   |   |                 |                      |                  |  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
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|                                 | AL                         |  |                                     |   |   |                       | -                    | Yes<br>No         |  |
|                                 | АМ                         |  |                                     |   |   |                       |                      | Yes<br>No         |  |
| '                               | AN                         |  |                                     |   |   |                       |                      | Yes<br>No         |  |
|                                 | AO                         |  |                                     |   |   |                       |                      | Yes<br>No         |  |
|                                 | AP                         |  |                                     |   |   |                       |                      | Yes<br>No         |  |
|                                 |                            |  | OTHER (I                            | ncluding Aut  | hor, Title, Date, Pert                        | inent Pages, etc      | .)                   |                   |  |
|                                 | AR                         | 2 <u>4</u>   | Dialog File 3<br>(Document          | 351, Accession<br>AL5)  | No. 11573252, Derwent                         | t WPI English langu   | age abstract of \    | WO 97/41230       |  |
|                                 | AS                         | <u>24</u>  | Dialog File 3<br>(Document          | Dialog File 351, Accession No. 12336308, Derwent WPI English language abstract of WO 98/55873<br>Document AP10) |   |                       |                      |                   |  |
|                                 | AT                         | Dialog File 351, Accession No. 12523594, Derwent WPI English language abstract of FR 2 771 423 (Document AM14) |                                     |   |   |                       |                      |                   |  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                | ·                             |
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|                                 | AC            |             |                               |                                  |                                   | <u> </u>   | <u> </u>   |                  |
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|                                 | AE            | ļ           |                               | <del></del>                      |                                   |  |  |                  |
|                                 | AF            | <u> </u>    |                               |                                  |                                   |  |  |                  |
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|                                 | AG            | <u> </u>    |                               |                                  |                                   |  |  |                  |
|                                 | АН            |             |                               |                                  |                                   |  |  |                  |
|                                 | Al            |             |                               |                                  |                                   |  |  |                  |
|                                 | AJ            |             |                               |                                  |                                   |  |  |                  |
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| EXAMINER<br>INITIAL             |               |             | CUMENT<br>MBER                | DATE                             | COUNTRY                           | CLASS  | SUB-CLASS  | TRANSLATION      |
|                                 | AL            |             |                               |                                  |                                   |  |  | Yes<br>No        |
|                                 | AM            |             | -,                            |                                  |                                   | <del>                                     </del> |  | Yes              |
|                                 | AN            | +           |                               |                                  |                                   | <u> </u>   |  | No<br>Yes        |
|                                 | 1.            | +-          | <del></del> -                 |                                  |                                   | <del>-</del>                                     |  | No<br>Yes        |
|                                 | AO_           | +           |                               |                                  | <del> </del>                      | ļ  | <del>                                     </del> | No<br>Yes        |
|                                 | AP            |             | OTHER (Ir                     | cluding Auth                     |                                   | Pages, etc.)                                     | <u>                                     </u>     | No               |
| V 9                             | AR            | <u>25</u>   |                               | 51, Accession N                  | lo. 12797479, Derwent WPI E       |  |  | IP 11-243960     |
|                                 | AS            | <u>25</u>   | Dialog File 3<br>11-292795 (I | 51, Accession N<br>Document AL17 | lo. 1999-620207/199953, Derv<br>) | vent WPI En                                      | glish language a                                 | abstract of JP   |
|                                 | AT            | <u>25</u>   | Dialog File 3 979 655 (Do     | 51, Accession N<br>cument AP18)  | o. 2000-197082/200018, Derv       | vent WPI En                                      | glish language a                                 | abstract of EP 0 |
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| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
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|                                  | March 4, 2004                            | 1647                          |

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|                     | AL          |  |                              |                           |                                 |               |                     | Yes<br>No        |
|                     | AM          |  | -                            |                           |                                 |               |                     | Yes<br>No        |
|                     | AN          |  |                              |                           |                                 |               |                     | Yes              |
|                     |             |  |                              |                           |                                 | _             | -                   | No<br>Yes        |
|                     | AO          |  |                              |                           |                                 | -             |                     | No               |
|                     | AP          | <u>.                                    </u> | OTHER (I                     | ncluding Auth             | nor, Title, Date, Pertinent F   | Pages, etc.   | <u> </u>            | No               |
| 2                   | AR          | <u>26</u>                                    |                              | 351, Accession I          | <br>No. 13109249, Derwent WPI E |               |                     | RU 2126048       |
|                     | AS          | <u>26</u>                                    | Dialog File 3<br>(Document a | 351, Accession (<br>AM20) | No. 13099553, Derwent WPI E     | nglish langua | age abstract for    | WO 00/15785      |
|                     | AT          | <u>26</u>                                    | NCBI Entrez                  | z, Genbank Rep            | ort, Accession No. M74240, Be   | eckman, M.P   | ., et al. (1991)    |                  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
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|                                  | March 4, 2004                            | 1647                          |

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|                       | AL           |  |                 |                        |                                 |                         | ·                                 | Yes<br>No        |  |
| ·                     | АМ           |  |                 |                        |                                 |                         |                                   | Yes<br>No        |  |
|                       | AN           |  |                 |                        |                                 |                         |                                   | Yes<br>No        |  |
|                       | AO           | s.   |                 |                        |                                 |                         |                                   | Yes<br>No        |  |
|                       | AP           |  |                 |                        |                                 |                         |                                   | Yes<br>No        |  |
|                       | ·            |  | OTHER (II       | ncluding Auth          | or, Title, Date, Pertinent P    | ages, etc.)             |                                   |                  |  |
| 2                     | AR           | <u>27</u>  | NCBI Entrez     | z, Genbank Repo        | ort, Accession No. L10918, Gad  | o, JL., <i>et al</i> .  | (1993)                            |                  |  |
|                       | AS           | <u>27</u>  | NCBI Entrez     | , Genbank Repo         | ort, Accession No. U03882, Ch   | aro, I.F., e <i>t à</i> | i. (June 1994)                    |                  |  |
|                       | AT           | <u>27</u>  | NCBI Entrez     | , Genbank Repo         | ort, Accession No. D10925, No.  | mura, H., et            | al. (September                    | 1994)            |  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
| INFORMATION DISCLOSURE STATEMENT | FILING DATE                              | ART UNIT                      |
|                                  | March 4, 2004                            | 1647                          |

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|                                   | AL           |                 | <del>-</del>    |                        |                                 |                         |                        | Yes<br>No        |
|                                   | АМ           |                 |                 |                        |                                 |                         |                        | Yes              |
|                                   | 1            | <del> </del>    |                 |                        |                                 | <del> </del>            |                        | No<br>Yes        |
|                                   | AN           | 1               |                 |                        |                                 | -                       |                        | No<br>Yes        |
|                                   | AO           | +               |                 |                        |                                 |                         |                        | No<br>Yes        |
|                                   | AP           | Ш_              | OTHER /I        | naludina Auth          | or, Title, Date, Pertinent F    | <u> </u>                |                        | No               |
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|                                   | AR           | 28              | NCBI Entrez     | , Genbank Repo         | ort, Accession No. L09230, Ne   | ote, K., <i>et al</i> . | (December 199          | )4)              |
|                                   | AS           | <u>28</u>       | NCBI Entrez     | , Genbank Repo         | ort, Accession No. L24445, Pra  | ido, G.N., et           | al. (May 1994)         |                  |
|                                   | AT           | 28              | NCBI Entrez     | , Genbank Repo         | ort, Accession No. U29677, Po   | st, T.W., et a          | <i>l.</i> (January 199 | 5)               |
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| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
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|                                  | March 4, 2004                            | 1647                          |

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|                              | AL          |                |               |                      |                                 |                 |                  | Yes<br>No     |
|                              | АМ          |                |               |                      |                                 |                 |                  | Yes<br>No     |
|                              | AN          |                |               |                      |                                 |                 |                  | Yes<br>No     |
|                              | AO          |                |               |                      |                                 |                 |                  | Yes<br>No     |
|                              | AP          |                | _             |                      |                                 |                 |                  | Yes<br>No     |
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| 9                            | AR          | <u>29</u>      | NCBI Entre    | z, Genbank Rep       | ort, Accession No. U28406, G    | ao, J.L., and   | Murphy, P.M. (F  | ebruary 1996) |
|                              | AS          | <u>29</u>      | NCBI Entre    | z, Genbank Rep       | ort, Accession No. D29984, Ya   | amagami, S.,    | et al. (August 1 | 994)          |
|                              | AT          | <u>29</u>      | NCBI Entre    | z, Genbank Rep       | ort, Accession No. U47036, Bo   | oring, L., et a | /. (March 1996)  |               |
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|                  | AL            |                  | ·              |                    |                              |                              |  | Yes<br>No         |
|                  | AM            |                  |                |                    |                              |                              |  | Yes<br>No         |
|                  | AN            |                  |                |                    |                              |                              |  | Yes<br>No         |
|                  | AO            |                  |                |                    |                              |                              |  | Yes<br>No         |
|                  | AP            |                  |                |                    |                              |                              |  | Yes<br>No         |
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| L                | AR            | <u>30</u>        | NCBI Entre     | ez, Genbank R      | eport, Accession No. U47     | 035, Boring, L., <i>et a</i> | nl. (March 1996)                                 |                   |
|                  | AS            | 30               | NCBI Entre     | ez, Genbank R      | eport, Accession No. U28     | 694, Combadiere, C           | C., <i>et al</i> . (June 1                       | 995)              |
|                  | AT            | 30               | NCBI Entre     | ez, Genbank R      | eport, Accession No. U51     | 717, Kurihara, T., a         | nd Bravo, R. (M                                  | ay 1996)          |
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| and not conside  | red. Inclu    | de copy o        | of this form w | ith next commun    | nication to Applicant.       | L. Gos. Diawillia ul         | . Jugir Alauon Ji IIC                            | A III COMOMINANCE |

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|                                  | Li et al.                                |                               |   |
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|                                  | March 4, 2004                            | 1647                          |   |

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|                       | AF  |              |   |                |                                |                       |                |              |  |  |
|                       | AG  |              |   |                |                                |                       |                |              |  |  |
|                       | АН  |              |   |                |                                |                       |                |              |  |  |
|                       | Al  |              |   |                |                                |                       |                |              |  |  |
| ***                   | AJ  |              |   |                |                                |                       |                |              |  |  |
|                       | AK  |              |   |                |                                |                       |                |              |  |  |
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|                       | AL  | <u> </u>     | •   |                |                                |                       |                | Yes<br>No    |  |  |
|                       | АМ  | <u> </u>     |   |                |                                |                       |                | Yes<br>No    |  |  |
|                       | AN  |              |   |                |                                |                       |                | Yes<br>No    |  |  |
|                       | AO  |              |   |                |                                |                       |                | Yes<br>No    |  |  |
|                       | AP  |              |   |                |                                |                       |                | Yes<br>No    |  |  |
|                       | <del></del>   |              | OTHER (IF   | icluding Auth  | or, Title, Date, Pertinent P   | ages, etc.)           |                |              |  |  |
| 2                     | AR  | <u>31</u>    | NCBI Entrez   | , Genbank Repo | ort, Accession No. X94151, Me  | yer, A., <i>et al</i> | . (July 1996)  |              |  |  |
|                       | AS  | 31           | NCBI Entrez, Genbank Report, Accession No. U54994, Raport, C.J., et al. (July 1996) |                |                                |                       |                |              |  |  |
|                       | AT  | 31           | NCBI Entrez   | , Genbank Repo | ort, Accession No. X99393, Sar | mson, M., et          | al. (September | 1996)        |  |  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                | •                             |
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|  | Al   | <u> </u>       |  |   |                           |              |              |                  |  |  |
|  | AJ   |                |  | <u>_</u>  |                           |              |              |                  |  |  |
| <del>, *** =</del>   | AK   |                |  |   |                           |              |              |                  |  |  |
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|  | AL   | 1              |  |   |                           |              |              | Yes              |  |  |
|  |  | -              |  |   |                           |              |              | No<br>Yes        |  |  |
|  | AM   | +              |  |   | ,                         |              |              | No<br>Yes        |  |  |
|  | AN   | <del>-  </del> |  |   |                           | <u> </u>     |              | No<br>Yes        |  |  |
|  | AO   |                |  |   | 1                         |              |              | No<br>Yes        |  |  |
|  | AP   |                | OTHER (II  | cluding Auth  | or Title Date Pertinent I | Pages etc.   |              | No               |  |  |
| 2  | AR   | 32             | OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  NCBI Entrez, Genbank Report, Accession No. U56819, Heesen, M., et al. (September 1996) |   |                           |              |              |                  |  |  |
|  | AS   | <u>32</u>      | NCBI Entrez  | NCBI Entrez, Genbank Report, Accession No. U49727, Ponath, P.D., et al. (August 1996) |                           |              |              |                  |  |  |
|  | АТ   | 32             | NCBI Entrez, Genbank Report, Accession No. X91492, Samson, M., et al. (April 1996)   |   |                           |              |              |                  |  |  |
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|                                  | ATTY, DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
| INFORMATION DISCLOSURE STATEMENT | FILING DATE                              | ART UNIT                      |
|                                  | March 4, 2004                            | 1647                          |

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|                       | AL   |           |   |                |                               |               |                 | Yes<br>No      |  |  |
|                       | AM   |           |   |                |                               |               |                 | Yes<br>No      |  |  |
|                       | AN   |           |   |                |                               |               |                 | Yes<br>No      |  |  |
| -                     | AO   |           |   |                |                               |               |                 | Yes<br>No      |  |  |
|                       | AP   |           |   |                |                               |               |                 | Yes<br>No      |  |  |
|                       |  |           | OTHER (In   | ncluding Auth  | or, Title, Date, Pertinent F  | Pages, etc.   | )               |                |  |  |
|                       | AR   | <u>33</u> | NCBI Entrez   | , Genbank Repo | ort, Accession No. U51241, Da | augherty, B.L | (August 1996)   | ,              |  |  |
|                       | AS   | <u>33</u> | NCBI Entrez, Genbank Report, Accession No. U57840, Combadiere, C., et al. (June 1996) |                |                               |               |                 |                |  |  |
|                       | АТ   | <u>33</u> | NCBI Entrez   | , Genbank Repo | ort, Accession No. U68565, Ku | ziel, W.A., a | nd Maeda, N. (( | December 1996) |  |  |
| EXAMINER              | .L   |           | 1   |                |                               | DATE          | CONSIDERED      | 14/51          |  |  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
| INFORMATION DISCLOSURE STATEMENT | FILING DATE                              | ART UNIT                      |
|                                  | March 4, 2004                            | 1647                          |

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|                       | AG          | <del> </del>                                     | 1                              |   |                                 |                  |                     |                  |  |
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|                       | AK          | i  |                                |   |                                 | ··               |                     |                  |  |
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|                       | AL          | 1401   | VIDER                          |   |                                 |                  |                     | Yes<br>No        |  |
|                       | AM          |  |                                |   |                                 |                  | -                   | Yes              |  |
|                       |             |  |                                |   |                                 |                  |                     | No<br>Yes        |  |
|                       | AN          | _  |                                |   |                                 |                  | <del></del>         | No<br>Yes        |  |
|                       | AO          |  |                                |   |                                 |                  |                     | No               |  |
|                       | AP          |  |                                |   |                                 |                  |                     | Yes<br>No        |  |
|                       | <b>!</b>    | Γ  | OTHER (II                      | ncluding Auti   | nor, Title, Date, Pertinent     | Pages, etc.      |                     |                  |  |
| 2                     | AR          | <u>34</u>  | NCBI Entrez                    | z, Genbank Rep  | ort, Accession No. U70988, D    | ounstan, C.A.N   | N., et al. (Octobe  | er 1996)         |  |
|                       | AS.         | <u>34</u>  | NCBI Entrez<br>1997)           | NCBI Entrez, GenBank Report, Accession No. AF019772, submitted by Doranz, B.J., et al. (September 1997) |                                 |                  |                     |                  |  |
|                       | AT          | 34   | NCBI Entrez<br>search align    | r, GenBank ref f<br>ment  | ile NP_000570.1 (chemokine      | receptor 5 [Ho   | omo sapiens]) B     | BLAST homology   |  |
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|                                  | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |
| FORM PTO-1449                    | FIRST NAMED INVENTOR                     |                               |
|                                  | Li et al.                                |                               |
| INFORMATION DISCLOSURE STATEMENT | FILING DATE                              | ART UNIT                      |
|                                  | March 4, 2004                            | 1647                          |

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|                                 | AE   | -            | ·               | <del> </del>  |                           |                    |            |                      |  |  |
|                                 | AF   | <del> </del> |                 | <del>                                     </del>  |                           | <del></del>        |            |                      |  |  |
|                                 | AG   |              |                 |   |                           |                    | <u> </u>   |                      |  |  |
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|                                 | AI   | ļ            | <u> </u>        |   |                           |                    | ļ          |                      |  |  |
|                                 | AJ   |              |                 |   |                           |                    |            |                      |  |  |
|                                 | AK   | <u> </u>     | <del></del>     |   |                           |                    |            |                      |  |  |
|                                 | AK   |              |                 |   |                           |                    |            |                      |  |  |
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|                                 | AL   |              |                 |   |                           |                    |            | Yes<br>No            |  |  |
|                                 | АМ   |              |                 |   |                           |                    |            | Yes<br>No            |  |  |
|                                 | AN   |              |                 |   |                           |                    | <u> </u>   | Yes<br>No            |  |  |
|                                 | AO   |              | <del> </del>    |   |                           |                    |            | Yes                  |  |  |
|                                 | AP   |              |                 |   |                           |                    |            | No<br>Yes            |  |  |
|                                 | JAP  |              | OTHER           | (Including A  | uthor, Title, Date, Per   | tinent Pages, etc. | 1          | No No                |  |  |
| 2                               | AR   | 35           | European        |   | t for European Patent App |                    |            | Patent Office,       |  |  |
| 2                               | AS   | <u>35</u>    | Co-pendin       | Co-pending U.S. Application No. 10/127,764, inventors Li <i>et al.</i> , filed April 23, 2002 (NOT PUBLISHED) |                           |                    |            |                      |  |  |
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| Tith.               | EMCT.                    | SUPPLEMENTAL                                       |                         | Li et al.                                       |                 |  |                |  |  |
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|                     | AL                       |  |                         |   |                 |  | Yes            |  |  |
|                     | <del> </del>             |  | <u> </u>                |   | <del>- </del>   | <del> </del>                           | No<br>Yes      |  |  |
|                     | AM                       |  |                         |   |                 |  | No             |  |  |
|                     | AN                       |  |                         |   |                 |  | Yes<br>No      |  |  |
|                     | AO                       |  |                         |   |                 |  | Yes<br>No      |  |  |
|                     | AP                       |  |                         |   |                 |  | Yes<br>No      |  |  |
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| 11                  | <del> </del>             | Olson, W.C., et                                    | al "Differ              | ential Inhibition of Human Im                   | munodefi        | ciency Virus                           | Type 1         |  |  |
|                     | AT                       |  |                         | CC-Chemokine Activity by                        |                 |  |                |  |  |
|                     |                          |  |                         | nerican Society for Microbiolo                  |                 |  | •              |  |  |
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|                     | AC             |                               |                   |   |               |                   |                 |  |
|                     | AD             |                               |                   |   |               |                   |                 |  |
|                     | AE             |                               |                   |   |               |                   |                 |  |
|                     | AF             |                               |                   |   |               |                   |                 |  |
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|                     | AL             |                               |                   |   |               |                   | Yes             |  |
| <u> </u>            | AM             |                               |                   | ·   | -             |                   | No Yes          |  |
|                     | AN             |                               |                   |   |               |                   | No<br>Yes<br>No |  |
|                     | AO             |                               |                   |   |               | ļ. <del></del>    | Yes             |  |
|                     | AP             |                               | <u> </u>          |   | -             |                   | No<br>Yes       |  |
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| 4                   | AR 3           | Osbourn, J.K., e              | et al., "Dire     | cted selection of MIP-1 a neutrody library," Nat. Biotechnol. | alizing C     |                   |                 |  |
|                     | AS 3           | Supplementary 71 8923, comple |                   | opean Search Report for Europ<br>nber 29, 2004                | ean Pater     | it Applicatio     | n No. EP 02     |  |
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|                     | AL             |   |                    |  |                |                    | Yes<br>No      |  |  |
|                     | AM             |   |                    |  |                |                    | Yes<br>No      |  |  |
|                     | AN             |   |                    |  |                |                    | Yes<br>No      |  |  |
|                     | AO             |   |                    |  |                |                    | Yes<br>No      |  |  |
|                     | AP             |   |                    |  |                |                    | Yes<br>No      |  |  |
|                     |                | OTHER (Inc  | luding Auth        | hor, Title, Date, Pertinent Pages,                                     | etc.)          |                    |                |  |  |
| 2                   | AR [           | 37 Database UniPr   | ot, Accessi        | ion No. AX355922, Devaux, B.   | et al., F      | ebruary 6, 20      | 002            |  |  |
|                     | AS             | Database UniProt, Accession No. P18135, Kipps, T.J., et al., November 1, 1990 |                    |  |                |                    |                |  |  |
|                     | AT ;           | 37 Database UniPr   | ot, Accessi        | ion No. AAR38672, Marasco, V   |                |                    | er 1, 1993     |  |  |
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|                     | AL   |                               |                   |  |                       |                                       | Yes<br>No   |  |  |
|                     | AM   |                               |                   |  |                       |                                       | Yes<br>No   |  |  |
|                     | AN   |                               |                   |  |                       |                                       | Yes<br>No   |  |  |
|                     | AO   |                               |                   |  |                       |                                       | Yes<br>No   |  |  |
|                     | AP   |                               |                   |  |                       |                                       | Yes<br>No   |  |  |
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|                     | AR 3   | Database EMBI                 | ., Accession      | n No. Z75404, Tonnelle, C., <i>et</i>    | al., April            | 30, 1997                              |             |  |  |
|                     | AS 38 Database EMBL, Accession No. Z14196, Cuisinier, A.M., et al., January 20, 1993 |                               |                   |  |                       |                                       |             |  |  |
|                     | AT 3   | 8 Database EMBI               | ., Accession      | n No. Z27170, Bensimon, C., e            | et al., Nov           | rember 12, 1                          | 993         |  |  |
| EXAMINER            | <u> </u>   | 9/ [                          |                   |  | DATE CO               | NSIDERED                              | 14/02       |  |  |
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|                   | AL  |  |                     |  |               |                    | Yes<br>No     |  |  |
|                   | AM  |  |                     |  |               |                    | Yes<br>No     |  |  |
|                   | AN  |  |                     |  |               |                    | Yes<br>No     |  |  |
|                   | AO ·  |  |                     |  |               |                    | Yes<br>No     |  |  |
|                   | AP  |  |                     |  |               |                    | Yes<br>No     |  |  |
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| Q/                | AR 3  | Database EMBI  | ., Accession        | No. S66101, Bhat, N.M., et a   | d., Decen     | nber 6, 1993       |               |  |  |
|                   | AS 39 Database EMBL, Accession No. AJ388647, Capello, D., et al., July 22, 1999 |  |                     |  |               |                    |               |  |  |
|                   | AT 3  | Database EMBI  | ., Accession        | No. Z46310, Chapman, C.J.,   | et al., De    | cember 12,         | 1994          |  |  |
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|                     | AC4  | 6,107,019                             | 08/22/2000                         | Allaway et al.  |                                  |   | 06/13/1997                           |  |  |
|                     | AD4  | 6,344,545                             | 02/05/2002                         | Allaway et al.  |                                  |   | 04/02/1997                           |  |  |
|                     | AE4  | 6,448,375                             | 09/10/2002                         | Samson et al.   |                                  |   | 04/09/1997                           |  |  |
|                     | AF4  | 6,528,625                             | 03/04/2003                         | Wu et al.   |                                  |   | 07/11/1997                           |  |  |
|                     | AG4  | 6,692,938                             | 02/17/2004                         | Samson et al.   |                                  |   | 08/24/2001                           |  |  |
|                     | AHA  | 6,797,811                             | 09/28/2004                         | Gray et al.   |                                  |   | 12/20/1996                           |  |  |
|                     | Al4  | 6,800,447                             | 10/05/2004                         | Samson et al.   |                                  |   | 08/24/2001                           |  |  |
|                     | AJ4  | 20010000241                           | 04/12/2001                         | Li et al.   |                                  |   | 11/29/2000                           |  |  |
|                     | AK   |                                       |                                    |   |                                  |   |                                      |  |  |
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|                     | AL   |                                       |                                    |   |                                  |   | Yes<br>No                            |  |  |
| (V.                 | AM21   | WO 98/02151                           | 01/22/1998                         | WIPO  |                                  |   | Yes<br>No                            |  |  |
|                     | AN21   | WO 98/11218                           | 03/19/1998                         | WIPO  |                                  |   | Yes<br>No                            |  |  |
|                     | AO21   | WO 01/058915 A3                       | 08/16/2001                         | WIPO  |                                  |   | Yes<br>No                            |  |  |
| _                   | AP   |                                       |                                    |   |                                  |   | Yes<br>No                            |  |  |
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| X                   | AR 4   | Baba, M., et al., 'HIV activity," Pro | 'A small-molec<br>c. Natl. Acad. S | ule, nonpeptide CCR5 a<br>Sci. U.S.A. 96:5698-5703          | ntagonist with<br>3, National Ad | n highly potent ar<br>cademy of Science | nd selective anti-<br>ces (May 1999) |  |  |
|                     | AS  BD Pharmingen™ Technical Data Sheet, "R-Phycoerythrin (R-PE)-Conjugated Mouse Anti-human Monoclonal Antibody," Revision 002, BD Biosciences Pharmingen (August 2004) |                                       |                                    |   |                                  |   |                                      |  |  |
|                     | AT 4   |                                       |                                    | usage of primary human<br>pe," <i>J. Virol.</i> 71(10):7478 |                                  |   |                                      |  |  |
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| SECOND SUPPLEMENTAL              | Li et al.            |                 |   |
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|                             | AL                  |  |  |  |   |                                       | Yes<br>No                          |  |  |
|                             | AM                  |  |  |  |   |                                       | Yes<br>No                          |  |  |
|                             | AN                  |  |  |  |   |                                       | Yes<br>No                          |  |  |
|                             | AO                  |  |  |  |   |                                       | Yes<br>No                          |  |  |
|                             | AP                  |  |  |  |   |                                       | Yes<br>No                          |  |  |
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| 1                           | AR 4                | 11 involved in high  | n affinity binding                         | harged and aromatic<br>g of both chemokines<br>an Society for Bioche | and HIV-1 Env pro                       | tein," J. Biol. Cl                    | nem.                               |  |  |
|                             | AS 4                | Blanpain, C., et al., "Extracellular cysteines of CCR5 are required for chemokine binding, but dispensable for HIV-1 coreceptor activity", <i>J. Biol. Chem. 274(27)</i> :18902-18908, American Society for Biochemistry and Molecular Biology (July 1999) |  |  |   |                                       |                                    |  |  |
|                             | AT 4                | Bleul, C.C., et on human T lyr (1997)  | al., "The HIV co<br>mphocytes", <i>Pro</i> | receptors CXCR4 and c. Natl. Acad. Sci. U.                           | d CCR5 are differe<br>S.A. 94:1925-1930 | entially expresse<br>D, National Acad | d and regulated<br>emy of Sciences |  |  |
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| APPLICANT(S)         |                 |
| Li et al.            |                 |
| FILING DATE          | ART UNIT        |
| March 4, 2004        | 1647            |

#### SECOND SUPPLEMENTAL

FORM PTO-1449

INFORMATION DISCLOSURE STATEMENT

**U.S. PATENT DOCUMENTS** EXAMINER DATE NAME CLASS SUB-CLASS FILING DATE INITIAL **DOCUMENT** NUMBER AA AB AC AD ΑE AF AG AH ΑI AJ ΑK FOREIGN PATENT DOCUMENTS EXAMINER INITIAL DATE COUNTRY **CLASS** SUB-CLASS TRANSLATION DOCUMENT NUMBER Yes AL No Yes AM No Yes AN No Yes AO No Yes AP No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Chackerian, B., et al., "Induction of autoantibodies to mouse CCR5 with recombinant papillomavirus AR 42 particles," Proc. Natl. Acad. Sci. U.S.A. 96:2373-2378, National Academy of Sciences (1999) Davies, B. and Morris, T., "Physiological parameters in laboratory animals and humans," Pharmaceut. AS <u>42</u> Res. 10:1093-1095, Plenum Publishing Corp. (1993) Dejucq, N., et al., "Expanded tropism of primary human immunodeficiency virus type 1 R5 strains to CD4+ T-cell lines determined by the capacity to exploit low concentrations of CCR5," J. Virol. ΑT 42 73(9):7842-7847, American Society for Microbiology (1999) **EXAMINER** DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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| EXAMINER<br>INITIAL |                             |           | DCUMENT<br>JMBER   | DATE                             | COUNTRY                                   | CLASS                                | SUB-CLASS         | TRANSLATION                           |  |
|                     | AL                          |           |  |                                  |   |                                      |                   | Yes<br>No                             |  |
|                     | AM                          |           |  |                                  |   |                                      |                   | Yes<br>No                             |  |
|                     | AN                          |           |  |                                  |   |                                      |                   | Yes<br>No                             |  |
|                     | AO                          |           |  |                                  |   |                                      |                   | Yes<br>No                             |  |
|                     | AP                          | 1         |  |                                  |   |                                      |                   | Yes<br>No                             |  |
|                     |                             |           | OTHER (Incl  | uding Autho                      | or, Title, Date, Pertir                   | nent Pages, etc.)                    | <u> </u>          | 140                                   |  |
|                     | AR                          | 43        | OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  Doranz, B.J., et al., "A small-molecule inhibitor directed against the chemokine receptor CXCR4 prevents its use as an HIV-1 coreceptor," J. Exp. Med. 186(8):1395-1400, The Rockefeller University Press (October 1997) |                                  |   |                                      |                   |                                       |  |
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| EXAMINER            |                             |           | 1/1  |                                  |   | 1                                    | E CONSIDERE       | // 4/30                               |  |
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APPLICANT(S)

Li et al.

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| EXAMINER<br>INITIAL      |                           |   | CUMENT<br>MBER   | DATE  | COUNTRY  | CLASS                                  | SUB-CLASS                           | TRANSLATION                           |  |
|                          | AL                        |   |  |   |  |  |                                     | Yes<br>No                             |  |
|                          | АМ                        |   |  |   |  |  |                                     | Yes<br>No                             |  |
| ,                        | AN                        |   |  |   |  |  |                                     | Yes<br>No                             |  |
|                          | AO                        |   |  |   |  |  |                                     | Yes<br>No                             |  |
|                          | AP                        | 1   |  |   |  |  |                                     | Yes<br>No                             |  |
|                          |                           |   | OTHER (Inc   | luding Autho                                | or, Title, Date, Pertine                             | ent Pages, etc.)                       | .1                                  | 110                                   |  |
| 9                        | AR                        | <u>44</u>   | Dybul, M., et al., "Guidelines for using antiretroviral agents among HIV-Infected adults and adolescents.  The panel on clinical practices for treatment of HIV," Annals of Int. Med., 137(5):381-433, American College of Physicians (September 2002) |   |  |  |                                     |                                       |  |
|                          | AS                        | Farzan, M., et al., "A Tyrosine-rich region in the N terminus of CCR5 is important for human immunodeficiency virus type 1 entry and mediates an association between gp120 and CCR5," J. Virol., 72(2):1160-1164, American Society for Microbiology (February 1998) |  |   |  |  |                                     |                                       |  |
|                          | AT                        | <u>44</u>   | Fleuridor, R., o   | et al., "CD <sup>-</sup><br>y virus infecti | Id-restricted natural<br>on," <i>Immunology 108(</i> | killer T cells                         | are potent tar<br>Publishing Ltd. ( | gets for human<br>January 2003)       |  |
| EXAMINER                 |                           | $\overline{}$   | 1/   |   |  | DATI                                   | E CONSIDERED                        | 114/08                                |  |
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#### **FORM PTO-1449**

#### SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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| ATTY. DOCKET NO.     | APPLICATION NO. |
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| · · · - · · · · · · · · · · · · · · · · | AJ             |           |   |                                |  |                         |                   |                           |
|   | AK             |           |   |                                |  |                         |                   |                           |
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|   | AL             |           |   |                                |  |                         |                   | Yes<br>No                 |
|   | AM             |           |   |                                |  |                         |                   | Yes<br>No                 |
|   | AN             |           |   |                                |  |                         |                   | Yes<br>No                 |
|   | AO             |           |   |                                |  |                         |                   | Yes<br>No                 |
|   | AP             |           |   |                                |  |                         |                   | Yes<br>No                 |
|   |                |           | OTHER (Inc  | uding Autho                    | or, Title, Date, Perti   | nent Pages, etc.)       |                   |                           |
| V/                                      | AR             | <u>45</u> | terminal gp120-b  | inding site an                 | diated human immur<br>d on the conformational<br>can Society for Micro | onal integrity of all f | our extracellular | an amino-<br>domains," J. |
|   | AS             | <u>45</u> | He, J., et al., "Human immunodeficiency virus type 1 viral protein R (Vpr) arrests cells in the G₂ phase of the cell cycle by inhibiting p34 <sup>cdc2</sup> activity," <i>J. Virol.</i> 69(11):6705-6711, American Society for Microbiology (1995) |                                |  |                         |                   |                           |
|   | AT .           | <u>45</u> | Holland, A.U., et Virol. 319:343-35   | el., "α-comp<br>2, Elsevier In | plementation assay<br>c. (February 2004)                               | for HIV envelope        | glycoprotein-me   | diated fusion," J.        |
| EXAMINER                                | <u></u>        | (         | C   |                                |  | DAT                     | E CONSIDERED      | 14/0X                     |
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|                     | AL                            |   |  |   |                                       |   | Yes<br>No                             |
|                     | AM                            |   |  |   |                                       |   | Yes<br>No                             |
|                     | AN                            |   |  |   |                                       |   | Yes<br>No                             |
|                     | AO                            |   |  |   |                                       |   | Yes<br>No                             |
|                     | AP                            |   |  |   |                                       |   | Yes<br>No                             |
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| V                   | AR 4                          |   |  | er cell lines to study<br>um. Retroviruses 15(1                       |                                       |   |                                       |
|                     | AS                            | 46 immunosete                           | ected, natural killing                     | illing target antigens<br>g-resistant human T-<br>mmunologists (1985) | lymphoblastoid cell                   | feron: studies w<br>I line," <i>J. Immund</i> | ith an<br>ol. 134:971-976,            |
|                     | AT 4                          | Kedzierska<br>in monocyt<br>February 20 | tes and macrophag                          | fluence of cytokines,<br>ges," Rev. Med. Vir                          | rol. 13:39-56, John                   | Wiley and Sor                                 | ns, Ltd. (January-                    |
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SECOND SUPPLEMENTAL

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APPLICANT(S) Li et al.

FILING DATE March 4, 2004

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**U.S. PATENT DOCUMENTS** EXAMINER INITIAL **DOCUMENT** DATE NAME **CLASS** SUB-CLASS FILING DATE NUMBER AA AB AC AD AE AF AG AH ΑI AJ AK **FOREIGN PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT DATE COUNTRY CLASS SUB-CLASS TRANSLATION **NUMBER** Yes AL No Yes AM No Yes AN No Yes AO No Yes ΑP No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Kilby, J.M. and Eron, J.J. "Novel therapies based on mechanisms of HIV-1 cell entry," N. Engl. J. Med. AR <u>47</u> 384:2228-2238, Massachusetts Medical Society (May 2003) Königs, C., et al., "Monoclonal antibody screening of a phage-displayed random peptide library reveals mimotopes of chemokine receptor CCR5: implications for the tertiary structure of the receptor and for AS <u>47</u> an N-terminal binding site for HIV-1 gp120," Eur. J. Immunol. 30:1162-1171, Wiley-VCH Verlag GmbH (April 2000) Kottilii, S., et al., "Expression of chemokine and inhibitory receptors on natural killer cells: effect of AT <u>47</u> immune activation and HIV viremia," J. Infect. Dis. 189:1193-1198, National Institute of Allergy and Infectious Diseases (April 2004) **EXAMINER** DATE CONSIDERED 1.4/0 ( EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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|                     | AL                          |  |   |  |   |                                     | Yes<br>No                              |
|                     | AM                          |  |   |  |   |                                     | Yes<br>No                              |
|                     | AN                          |  |   |  |   |                                     | Yes<br>No                              |
|                     | AO                          |  |   |  |   |                                     | Yes<br>No                              |
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| 2                   | AR                          |  |   | HIV-1 to RBCs invo   |   | en receptors for                    | chemokines                             |
| 1                   | AS                          | 48 8outh America                               | a," N. Engl. J. M                       | de, an HIV-1 fusion i<br>ed. 348(22):2175-21<br>J. Med. 349(11):1100 | 85, Massachusetts                         | <b>Medical Society</b>              | tion in North and<br>(May 2003);       |
|                     | АТ                          | Lin, Y-L., et al<br>Proc. Natl. Ad<br>2002)    | l., "Cell surface<br>cad. Sci. U.S.A    | CCR5 density deter<br>. 99(24):15590-155                             | rmines the postentr<br>95, The National A | y efficiency of R<br>Academy of Sci | 15 HIV-1 infection.<br>ences (November |
| EXAMINER            |                             | 1  |   |  |   | E CONSIDERED                        | 01                                     |
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|                     | AL                         |                |   |   |   |  |   | Yes<br>No                    |
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|                     |                            | <u> </u>       | OTHER (Incli  | uding Author  | r, Title, Date, Perti                         | nent Pages, etc.)                        |   | ] 140                        |
| W                   | AR 4                       | <u>19</u>      | Lin, P-F., et al., "A<br>receptor binding,"<br>Sciences (Septem   | Proc. Natl. Ad  | ule HIV-1 inhibitor t<br>cad. Sci. U.S.A. 106 | hat targets the HIV<br>0(19):11013-11018 | /-1 envelope and                        | I inhibits CD4<br>Academy of |
|                     | AS 4                       | 19             | Liu, R., et al., "Homozygous defect in HIV-1 coreceptor accounts for resistance of some multiply-exposed individuals to HIV-1 infection," Cell 86:367-377, Cell Press (August 1996) |   |   |  |   |                              |
|                     | AT 4                       | <u>19</u>      | down-modulate su  | Lopalco, L., et al., "CCR5-Reactive antibodies in seronegative partners of HIV-seropositive individuals down-modulate surface CCR5 in vivo and neutralize the infectivity of R5 strains of HIV-1 in vitro," J. Immunol. 164:3426-3433, The American Association of Immunologists (March 2000) |   |  |   |                              |
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| ATTY, DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO. 10/791,905 |
| APPLICANT(S) Li et al.                   |                            |
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|                              | АВ                          |   |                                    |  |                              |                 |                     |
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|                              | AL                          |   |                                    |  |                              |                 | Yes<br>No           |
|                              | AM                          |   |                                    |  |                              |                 | Yes<br>No           |
|                              | AN                          |   |                                    |  |                              |                 | Yes<br>No           |
|                              | AO                          |   |                                    |  |                              |                 | Yes<br>No           |
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| 9                            | AR <u>5</u>                 | 0 (HIV-1) isolates in   | a unique CD4                       | rophage-tropic and prim<br>+ T-cell clone (PM1): Fa<br>9:3712-3720, American | ilure to down                | egulate CD4 an  | d to interfere with |
|                              | AS <u>5</u>                 | Lyerly, H.K., et al., "Anti-gp 120 antibodies from HIV seropositive individuals mediate broadly reactive anti-HIV ADCC," AIDS Res. Hum. Retroviruses 3:409-422, Mary Ann Liebert, Inc. (1987)                       |                                    |  |                              |                 |                     |
|                              | AT 5                        | Martin, J.C. and Bandrés, J.C., "Cells of the monocyte-macrophage lineage and pathogenesis of HIV-1 infection," <i>J. Acquir. Immune Defic. Syndr. 22(5)</i> :413–440, Lippincott Williams and Wilkins, Inc. (1999) |                                    |  |                              |                 |                     |
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| ATTY. DOCKET NO.     | APPLICATION NO. |
| 1488.115000P/EKS/HCC | 10/791,905      |
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|                             | AL            |           |  |                |   |  |                                       | Yes<br>No               |
|                             | АМ            |           |  |                |   |  |                                       | Yes<br>No               |
|                             | AN            | 1         |  |                |   |  |                                       | Yes<br>No               |
| -                           | AO            | <b>†</b>  |  |                |   |  |                                       | Yes                     |
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| 9                           | AR §          | <u>51</u> | Mirzabekov, T., et<br>Principal HIV-1 Co<br>Blochemistry and I   | oreceptor," J. | ced Expression, Nativ<br>J. Biol. Chem. 274(40)<br>Biology, Inc. (1999) | /e Purification, an<br>):28745-28750, Ti         | d Characterization He American Soc    | on of CCR5, a clety for |
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|                             | AT 5          | <u>51</u> | Moosmann, P. and Rusconi, S., "Alpha complementation of LacZ in mammalian cells," <i>Nucleic Acids Res. 24(6):</i> 1171-1172, Oxford University Press (March 1996)   |                |   |  |                                       |                         |
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|                             | AO                           |                                |  |   |                                    |                                 | Yes<br>No           |
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| N                           | AR <u>5</u>                  | Mueller, A., et a Pharmacology | /., *Pharmacol<br>/35(4):1033-10   | ogical characterizatio<br>143, Nature Publishin | on of the chemoking Group (Februal | ne receptor, CCF<br>ry 2002)    | R5," <i>Br. J</i> . |
|                             | AS 5                         | potent inhibitor of            | Münch, J., et al., "Hemofiltrate CC chemokine 1[9-74] causes effective internalization of CCR5 and is a potent inhibitor of R5-tropic human immunodeficiency virus type 1 strains in primary T cells and macrophages," <i>Antimicrob. Agents Chemother.</i> 46:982-990, The American Society for Microbiology (April 2002) |   |                                    |                                 |                     |
|                             | AT <u>5</u>                  | Nansen, A., et a               | Nansen, A., et al., "The role of CC chemokine receptor 5 in antiviral immunity," Blood 99(4):1237-1245, The American Society of Hematology (February 2002)   |   |                                    |                                 |                     |
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|                     | AR ! | 53        | Nieto, M., et al., "F   | Roles of cher  | mokines and recepto<br>American Association | or polarization in NK | (-target cell intera<br>s (1998) | actions," J. |
|                     | AS ! | 53        | Perera, L.P., et al., "IL-15 induces the expression of chemokines and their receptors in T lymphocytes,"<br>J. Immunol. 162:2606-2612, The American Association of Immunologists (1999) |  |   |                       |                                  |              |
|                     | AT § | 53        | patients," <i>Progran</i>   | Pozniak, A.L., et al., "Effect of short-term monotherapy with UK-427,857 on viral load in HIV-infected patients," Program and abstracts from the 43rd Annual Interscience Conference on Antimicrobial Agents and Chemotherapy (43rd ICAAC), pp.14-17, Coe-Truman Technologies, Inc. (September 2003) |   |                       |                                  |              |
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| 9/                          | OTHER (Including Author, Title, Date, Pertinent Pages, etc.)  Rabut, G.E.E., et al., "Alanine substitutions of polar and nonpolar residues in the amino-terminal domain of CCR5 differently impair entry of macrophage- and dualtropic isolates of human immunodeficiency virus type 1," J. Virol. 72(4):3464-3468, American Society for Microbiology (1998) |                      |   |                             |   |                                   |                 |             |  |
|                             | A8 5   | <u>54</u> recepto    | Reeves, J.D., et al., "Sensitivity of HIV-1 to entry inhibitors correlates with envelope/coreceptor affinity, receptor density, and fusion kinetics," <i>Proc. Natl. Acad. Sci. U.S.A.</i> 99(25):16249-16254, The National Academy of Sciences (December 2002) |                             |   |                                   |                 |             |  |
|                             | Reynes, J., et al., "CD4+ T cell surface CCR5 density as a determining factor of virus load in persons infected with human immunodeficiency virus type1," J. Infect. Dis. 181:927-932, The Infectious Diseases Society of America (March 2000)   |                      |   |                             |   |                                   |                 |             |  |
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| 1                           | Richman, D.D., et al., "Rapid evolution of the neutralizing antibody response to HIV type 1 infection,"<br>Proc. Natl. Acad. Sci. U.S.A.100(7):4144-4149, The National Academy of Sciences (April 2003) |  |                   |  |                                     |                                   |   |  |
|                             | AS 5  | Roederer, M., et al., "HIV does not replicate in naive CD4 T cells stimulated with CD3/CD28," J. Clin. Invest. 99(7):1555-1564, The American Society for Clinical Investigation, Inc. (1997) |                   |  |                                     |                                   |   |  |
|                             | AT <u>5</u>   | Rottman, J.B.,<br>targets of HIV<br>Pathology (199   | -1 infection," .  | ar localization of th<br>Amer. J. Path. 15   | ne chemokine re<br>61(5):1341-1351, | ceptor CCR5: co<br>American Socie | rrelation to cellular<br>ty for Investigative |  |
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| 1                   | AR            | <u>56</u>  | Rucker, J., et al.  | , "Regions in (  | 3-chemokine recepto<br>Cell Press (Novembe | ors CCR5 and CC                        |                    | ne HIV-1 cofactor                     |
|                     | AS            | Samson, M., et al., "The second extracellular loop of CCR5 is the major determinant of ligand specificity," <i>J. Biol. Chem. 272(40):</i> 24934-24941, American Society for Biochemistry and Molecular Biology, Inc. (1997) |                     |                  |  |  |                    |                                       |
|                     | AT            | <u>56</u>  | Samson, M., et a    | il., "Resistanc  | e to HIV-1 infection ine," Nature 382(22)  | in Caucasian indiv<br>:722-725, Nature | viduals bearing mo | utant alleles of the<br>(August 1996) |
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|                             | AP                         |           |  |                                       |   |  |  | Yes<br>No                                 |  |
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| 1                           | AR                         | <u>57</u> | Schecter, A.D., et 275(8):5466-5471  | <i>t el.,</i> "Human<br>I, American S | vascular smooth m<br>Society for Biochem      | uscle cells posses<br>istry and Molecula | s functional CCR5<br>r Biology, Inc. (Oc | 5," <i>J. Biol. Chem,.</i><br>tober 2000) |  |
|                             | AS                         | <u>57</u> | Siciliano, S.J., et al., "A critical site in the core of the CCR5 chemokine receptor required for binding and infectivity of human immunodeficiency virus type 1," J. Biol. Chem. 274(4):1905-1913, American Society for Biochemistry and Molecular Biology, Inc. (1999) |                                       |   |  |  |   |  |
|                             | AT                         | <u>57</u> | Spina, C.A., et al.<br>lymphocytes in vi<br>Inc. (1997)  | , "Preferentia<br>tro," J. Clin.      | al replication of HIV-<br>Invest. 99(7):1774- | -1 in the CD45RO<br>1785, The America    | memory cell subs<br>an Society for Clin  | et of primary CD4<br>lical Investigation, |  |
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| FORM PTO-1449                    | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO. 10/791,905 |
| FORM P4O-1449                    | APPLICANT(S)                             |                            |
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|                     | AL |   |  |                               |   |  |   | Yes<br>No                         |  |
|                     | AM |   |  |                               |   |  |   | Yes<br>No                         |  |
|                     | AN |   |  |                               |   |  |   | Yes<br>No                         |  |
|                     | AO |   |  |                               |   |  |   | Yes<br>No                         |  |
|                     | AP |   |  |                               |   |  |   | Yes<br>No                         |  |
|                     |    |   | OTHER (Inclu   | ding Autho                    | r, Title, Date, Pertin                        | ent Pages, etc.)                           |   |                                   |  |
|                     | AR | <u>58</u>   | Spira, S., et al., "In<br>resistance," J. Ant<br>(January 2003)  | mpact of clac<br>imicrob. Che | de diversity on HIV-1<br>emother. 51:229-240, | virulence, antiretro<br>The British Societ | oviral drug sensit<br>y for Antimicrobi | ivity and drug<br>al Chemotherapy |  |
|                     | AS | <u>58</u>   | Starr-Spires, L.D. and Collman, R.G. "HIV-1 entry and entry inhibitors as therapeutic agents," Clin. Lab. Med. 22:681-701, Elsevier Science (USA) (September 2002) |                               |   |  |   |                                   |  |
|                     | AT | Steinberger, P., et al., "Functional deletion of the CCR5 receptor by intracellular immunization produces cells that are refractory to CCR5-dependent HIV-1 infection and cell fusion," <i>Proc. Netl. Acad. Sci. U.S.A.</i> 97(2):805-810, The National Academy of Sciences (January 2000) |  |                               |   |  |   |                                   |  |
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|                     | AL             |                                  |                                      |  |  |   | Yes<br>No                               |
|                     | AM             |                                  |                                      |  |  |   | Yes                                     |
|                     | AN             |                                  |                                      |  |  |   | Yes                                     |
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| 2                   | AR             | 59 chemokine red                 | ceptor CCR5, is                      | CH 351125), an orally<br>a potent inhibitor of h<br>23, The National Aca | HIV-1 infection in v                     | vitro and in vivo."                       | gonist of the<br>Proc. Natl. Acad.      |
|                     | AS             | Thormeyer, D dimerization,"      | ., et al., "Charac<br>BioTechniques  | terization of lacZ con<br>34:346-355, Eaton P                            | nplementation delu<br>ublishing (Februar | etions using mem<br>y 2003)               | brane receptor                          |
|                     | AT .           | Trkola, A., et CXCR4 use," 2002) | al., "HIV-1 esca<br>Proc. Natl. Acad | pe from a small mole<br>1. Sci. U.S.A. 99(1):3                           | ecule, CCR5-spec<br>95-400, The Natio    | sific entry inhibitor<br>nal Academy of S | r does not involve<br>Sciences (Januar) |
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|                             | AL           |                  |   |                 |                       |                                      |                                    | Yes<br>No                                |
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|                             | AO           |                  |   |                 |                       |                                      |                                    | Yes<br>No                                |
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| 2                           | AR           | <u>60</u>        | Trkola, A., et al., " 1 isolates that use Society for Microb  | either the Co   | CR5 or the CXCR4      | assay for primary coreceptor," J. Vi | human immunod<br>irol. 73(11):8966 | leficiency virus type<br>-8974, American |
|                             | AS           | <u>60</u>        | Trkola, A., et al., "Potent, broad-spectrum inhibition of human immunodeficiency virus type 1 by the CCR5 monoclonal antibody PRO 140," <i>J. Virol.</i> 75(2):579-588, American Society for Microbiology (January 2001)  |                 |                       |                                      |                                    |  |
|                             | AT           | <u>60</u>        | Tuttle, D.L., et al., "Expression of CCR5 increases during monocyte differentiation and directly mediates macrophage susceptibility to infection by human immunodeficiency virus type 1," <i>J. Virol.</i> 72(6): 4962-4969, American Society for Microbiology (1998) |                 |                       |                                      |                                    |  |
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**U.S. PATENT DOCUMENTS EXAMINER DOCUMENT** CLASS INITIAL DATE NAME SUB-CLASS **FILING DATE** NUMBER AA AB AC AD AE AF AG AΗ Αl ΑJ AK FOREIGN PATENT DOCUMENTS **EXAMINER** INITIAL **DOCUMENT** DATE COUNTRY CLASS SUB-CLASS **TRANSLATION** NUMBER Yes AL No Yes ΑM No Yes AN No Yes AO No Yes AP No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Unutmaz, D. and Littman, D.R. "Expression pattern of HIV-1 coreceptors on T cells: Implications for AR <u>61</u> viral transmission and lymphocyte homing," Proc. Natl. Acad. Sci. U.S.A. 94:1615-1618, The National Academy of Sciences (1997) Van Rij, R.P., et al., "Differential coreceptor expression allows for independent evolution of non-AS 61 syncytium-inducing and syncytium-inducing HIV-1," J. Clin. Invest. 106(8):1039-1052, The American Society for Clinical Investigation, Inc. (October 2000) Wahl, S.M., et al., "Permissive factors for HIV-1 infection of macrophages," J. Leukoc. Biol. 68(3):303-AT <u>61</u> 310, The Society of Leukocyte Biology (September 2000) **EXAMINER** DATE CONSIDERED 101 EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not

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|                             | AL           |                |   |                                   |  |                               |                  | Yes<br>No              |
|                             | АМ           |                |   |                                   |  | _                             |                  | Yes<br>No              |
|                             | AN           |                |   |                                   |  |                               |                  | Yes<br>No              |
|                             | AO           |                |   |                                   |  |                               |                  | Yes<br>No              |
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|                             |              |                | OTHER (Inclu  | iding Author,                     | Title, Date, Pertiner                        | nt Pages, etc                 | .)               |                        |
|                             | AR           | <u>62</u>      | Mahl S.M. of al. "Visal and hast cofeeten facilitate LIV 4 continuing in macrophocons." I Javies Risk   |                                   |  |                               |                  |                        |
|                             | AS           | <u>62</u>      | Wang, Z., et al., "CCR5 HIV-1 coreceptor activity. Role of cooperativity between residues in N-terminal extracellular and intracellular domains," <i>J. Biol. Chem.</i> 274(40):28413-28419, American Society for Biochemistry and Molecular Biology, Inc. (1999) |                                   |  |                               |                  |                        |
|                             | AT           | <u>62</u>      | Weinhold, K.J., et al., "Measurement of direct and indirect forms of anti-HIV-1 ADCC: Implications for other retroviral disease," Dev. Biol. Standard 72:343-348, 21 <sup>st</sup> Congress of the IABS on Progress in Animal Retroviruses, S. Karger (1990)      |                                   |  |                               |                  |                        |
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|                                    | AL                           |  |                                       |   |  |   | Yes<br>No                    |
|                                    | AM                           |  |                                       |   |  |   | Yes<br>No                    |
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| 2                                  | AR 6                         | Welply, J.K., <i>et al.</i> , "β-Galactosidase α-complementation," <i>J. Biol. Chem. 256(13):</i> 6804-6810, American Society for Biochemistry and Molecular Biology, Inc. (1981)  |                                       |   |  |   |                              |
|                                    | AS 6                         | Woods, T.C., et al., "Loss of inducible virus in CD45RA naive cells after human immunodeficiency virus-1 entry accounts for preferential viral replication in CD45RO memory cells," <i>Blood 89(5)</i> :1635-1641, American Society of Hematology (1997) |                                       |   |  |   |                              |
|                                    | AT <u>6</u>                  | Wu, L., et al., 'HIV-1, in vitro,"   | CCR5 levels :<br>J. Exp. Med. 1       | and expression par<br>85(9):1681-1691, T  | ttern correlate with<br>he Rockefeller Uni | infectability by r<br>versity Press (Ma | macrophage-tropic<br>y 1997) |
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| AR 64  | Co-pending U. (NOT PUBLIS | .S. Application<br>HED) | No. 10/994,679, inve  | entors Roschke, V | . et al., filed Nove | mber 23, 2004  |
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| <del>_</del>        | AL                                    |                   |                            |  |                        |                        | Yes           |
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|                     | AN                                    |                   |                            |  |                        |                        | Yes<br>No     |
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| 9/                  | AP21                                  | EP 0 945 4        | 164 09/29/1999             | Europe   |                        |                        | Yes           |
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|                     | AT                                    | 64 1986           | )                          | 351011 140. F0 1354,   | , Schlechi, H. and H   | ischmann, N. (III      | st available  |
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|   | ATTY. DOCKET NO.<br>1488.115000P/EKS/HCC | APPLICATION NO.<br>10/791,905 |             |
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|                  | AL22   | WO 01/96388   | 12/20/2001             | WIPO                          |                 |  | Yes<br>No    |  |
|                  | АМ   |   |                        |                               |                 |  | Yes<br>No    |  |
|                  | AN   |   |                        |                               |                 |  | Yes          |  |
|                  | AO   |   |                        |                               |                 |  | No<br>Yes    |  |
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| V                | AR   |   |                        | sion No. P01607, Palm,        | _               |  | available    |  |
|                  | AS   | Database UniProt, Accession No. P01593, Titani, K., et al. (first available 1986) |                        |                               |                 |  |              |  |
|                  | Database UniProt, Accession No. P80362, Huang, DB., et al. (first available November 1995) |   |                        |                               |                 |  |              |  |
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|                                 | AO            |  |                    |  |  |                         |                      | Yes<br>No      |  |  |
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|                                 | AS            | <u>66</u>  | Database E         | Database EMBL, Accession No. Z34909, David, D. (first available March 1995)      |  |                         |                      |                |  |  |
| V                               | AT            | <u>66</u>  | Database E         | Database EMBL, Accession No. AB021535, Hakoda, M. (first available January 1999) |  |                         |                      |                |  |  |
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